

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016826**Date Inspected:** 15-Sep-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

<b>CWI Name:</b>	Jim Cunningham and Steven Mc Connell			<b>CWI Present:</b>	Yes	No
<b>Inspected CWI report:</b>	Yes	No	N/A	<b>Rod Oven in Use:</b>	Yes	No N/A
<b>Electrode to specification:</b>	Yes	No	N/A	<b>Weld Procedures Followed:</b>	Yes	No N/A
<b>Qualified Welders:</b>	Yes	No	N/A	<b>Verified Joint Fit-up:</b>	Yes	No N/A
<b>Approved Drawings:</b>	Yes	No	N/A	<b>Approved WPS:</b>	Yes	No N/A
				<b>Delayed / Cancelled:</b>	Yes	No N/A
<b>Bridge No:</b>	34-0006			<b>Component:</b>	Orthotropic Box Girder	

**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 6E/7E side plate 'E' (3100mm to 7955mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 perform CJP groove (splice) welding root then fill pass on the splice butt joint. The welder was observed performing automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042B-1. The joint being welded had a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System located at the opposite side of the plate prior/during welding. ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass welding was still continuing and should remain tomorrow.

At OBG 6E/7E edge plate 'B' outside, QA randomly observed ABF/JV qualified welder James Zhen ID #6001 continuing to perform root pass welding on the Complete Joint Penetration (CJP) splice butt joint. The welder was observed manually welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040B. The joint being welded has a single V-groove butt joint with copper backing bar. During welding, ABF Quality Control (QC) Steven Mc Connell was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass SMAW welding was still continuing and should remain tomorrow.

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At OBG 6E/7E edge plate 'B' outside, QA randomly observed ABF/JV qualified welder Xiao Jian Wan ID #9677 continuing to perform fill pass welding on the CJP splice butt joint. The welder was observed manually welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040B. The joint being welded has a single V-groove butt joint with copper backing bar. During welding, ABF Quality Control (QC) Steven Mc Connell was noted monitoring the welding parameters of the welder.

QA randomly observed ABF/JV qualified welders Rory Hogan (ID #3186) and Jeremy Dolman (ID #5042) continuing to perform complete joint penetration (CJP) groove (splice ) back welding fill pass on OBG 4W/5W side plate 'C1' outside. The welder was observed welding in the 4G (overhead) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3110-4. The welder was using a track mounted welder holder assembly that was remotely controlled. The joint being welded has the backing bar gouged using the Esab Plasma Arc machine and was ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System located on top of the plate prior and maintained the preheat by moving the heater blankets on the side of the plate during welding. The vicinity was also properly protected from wind and other climatic changes. During welding, ABF Quality Control (QC) Jim Cunningham was noted monitoring the welding parameters of the welder. Before the end of the shift, back welding of the splice butt joint was still continuing and should continue tomorrow.

At OBG 5W/6W side plate 'E' outside, QA randomly observed ABF personnel Mike Maday and Bryce Howell continuing to perform plasma arc gouging on the backing bar removal of the splice butt joint. The personnel were using an Esab plasma arc gouging machine that has the nozzle holder attached to a Bug-o track. Gouging of the backing bar was not completed today and should remain tomorrow.

At OBG 4W/5W side plate 'C' outside and OBG 6E/7E top deck plate 'A' outside, ABF personnel were observed flush grinding the weld cover reinforcement of the splice butt joint as required. The personnel were using the 9" disc grinder with the grinding cut of the disc to the plate parallel to the direction of the bridge complying with the contract requirements. At the end of the shift, flush grinding of the weld cover reinforcement was still continuing and should continue tomorrow.

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At OBG 6E/7E side plate 'F' inside, ABF welder Songtao, Huang was observed 3G-FC-AW-G welding full pass on the splice butt joint.



09-15-2010 1428Hrs Self Anchored Suspension (SAS) Bridge

At OBG 6E/7E top deck plate 'A' outside, ABF personnel was noted flush grinding the weld cover reinforcement of the splice butt joint as required. The personnel was using a 9" disc grinder with the grinding cut to the plate parallel to the direction of the bridge complying with the contract requirements.



09-15-2010 1150Hrs Self Anchored Suspension (SAS) Bridge

At OBG 4W/5W side plate 'C' outside, ABF personnel was noted flush grinding the weld cover reinforcement of the splice butt joint as required. The personnel was using a 9" disc grinder with the grinding cut to the plate parallel to the direction of the bridge complying with the contract requirements.



09-15-2010 1408Hrs Self Anchored Suspension (SAS) Bridge

At OBG 6E/7E edge plate 'B' outside, ABF welder James Zhen was observed performing 3G-Shielded Metal Arc Welding (SMAW) welding root pass on the splice butt joint.



09-15-2010 1428Hrs Self Anchored Suspension (SAS) Bridge

## Summary of Conversations:

No significant conversation occurred today.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

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**Inspected By:** Lizardo, Joselito

Quality Assurance Inspector

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**Reviewed By:** Levell, Bill

QA Reviewer